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(54) A MINING MACHINE WITH INTERCHANGEABLE CUTTING HEADS

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(44) 3.5.84

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(74) WM

(57) Claim

1. A mining machine comprising a vehicular frame, a vertical axis turret on the vehicular frame; bearing support means for the turret on the vehicular frame at an elevation below the top of the turret, a material gathering head on the forward end of the vehicular frame below the elevation of the turret, a vertically swingable boom carried by the turret, power means to rotate the turret on its vertical axis, power means to raise and lower said vertically swingable boom, power drive means on the boom near the free end thereof including a drive coupling connected to said power drive means, mounting means on the boom free end thereof, interchangeable ripper and milling heads for the boom, each of said interchangeable ripper and milling heads including a cooperating mounting means adapted to register with the mounting means on the boom, and means for separably attaching the mounting means on the boom and the cooperating mounting means on the

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selected one of said ripper or milling heads, each of said interchangeable heads having an input shaft adapted to be separably coupled to said drive coupling when the head is attached to the boom.

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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A mining machine comprising a vehicular frame, a vertical axis turret on the vehicular frame, bearing support means for the turret on the vehicular frame at an elevation below the top of the turret, a material gathering head on the forward end of the vehicular frame below the elevation of the turret, a vertically swingable boom carried by the turret, power means to rotate the turret on its vertical axis, power means to raise and lower said vertically swingable boom, power drive means on the boom near the free end thereof including a drive coupling connected to said power drive means, mounting means on the boom free end thereof, interchangeable ripper and milling heads for the boom, each of said interchangeable ripper and milling heads including a cooperating mounting means adapted to register with the mounting means on the boom, and means for separably attaching the mounting means on the boom and the cooperating mounting means on the selected one of said ripper or milling heads, each of said interchangeable heads having an input shaft adapted to be separably coupled to said drive coupling when the head is attached to the boom.

2. A mining machine as set forth in claim 1, in which said mounting means on the boom comprises a flanged connection on the leading end of the boom, said interchangeable heads each comprising a transmission housing having a work head mounted thereon rotatable relative thereto about an axis transverse to the axis of the boom and about an axis in axial alignment with the axis of the boom, and



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each of said transmission housings having a cooperating flange comprising the cooperating mounting means and each housing a drive transmission connected to drive the work head mounted thereon and including said input shaft adapted to be coupled to said drive coupling.

3. A mining machine as set forth in claim 1, in which said mounting means on the boom comprising a mounting plate on the leading end of the boom and having an opening therein in alignment with said drive coupling, and said cooperating mounting means on each of said interchangeable heads comprising a mounting plate adapted to register with the mounting plate on the boom.

4. A mining machine as set forth in claim 3, in which said power drive means is an electric motor and said drive coupling is connected to be driven by said electric motor.

5. A mining machine as set forth in claim 3, in which said means for separably attaching the mounting plate on the boom and the cooperating mounting plate on the selected head comprise a plurality of bolts interconnecting the peripheral edges of the plates.

6. A mining machine substantially as herein described with reference to Figures 1 to 8 of the accompanying drawings.

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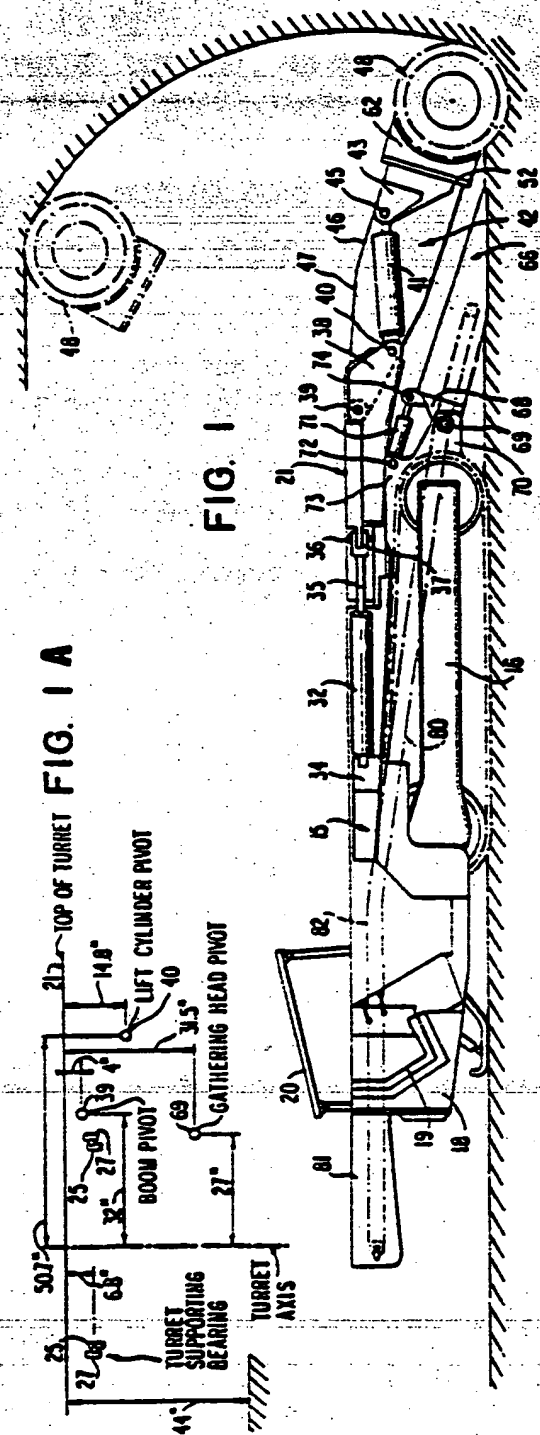


FIG. 1

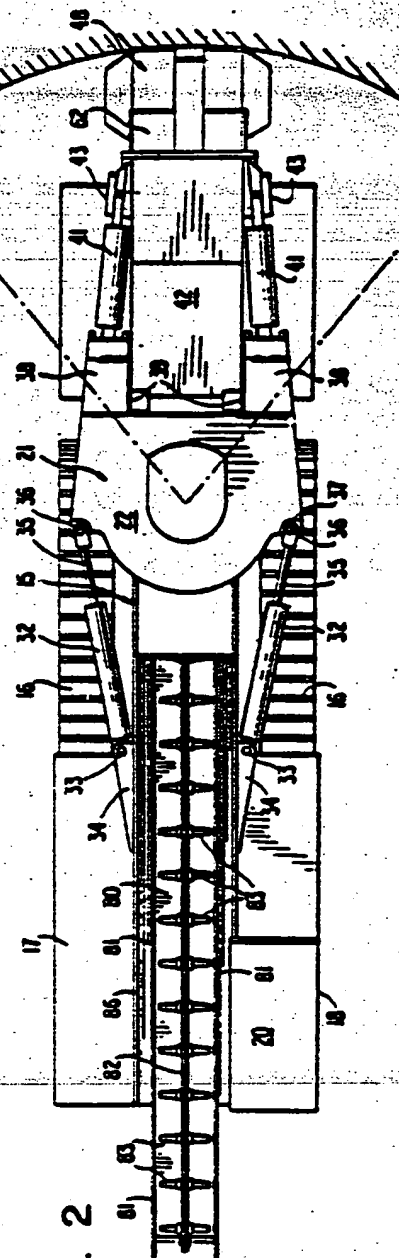
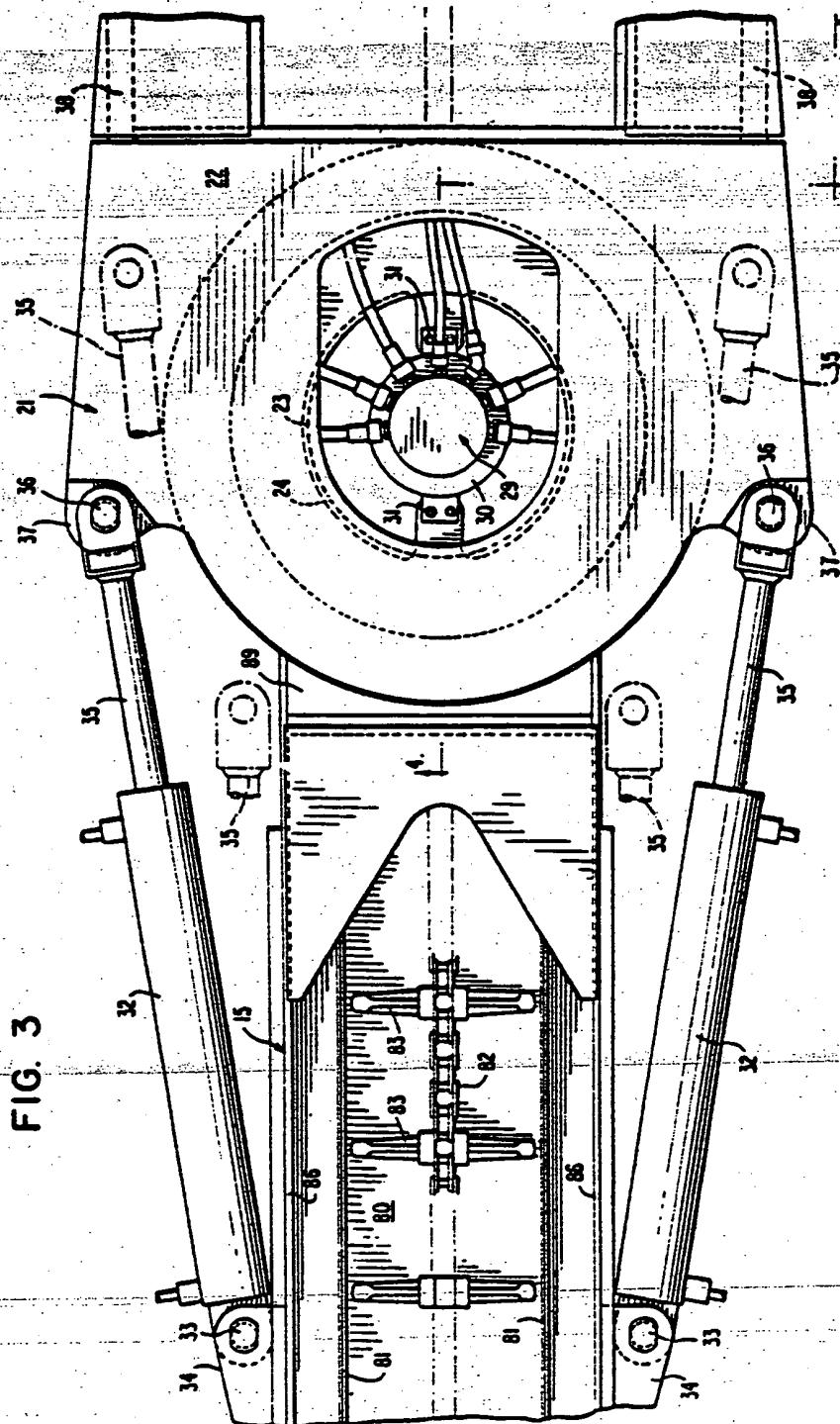


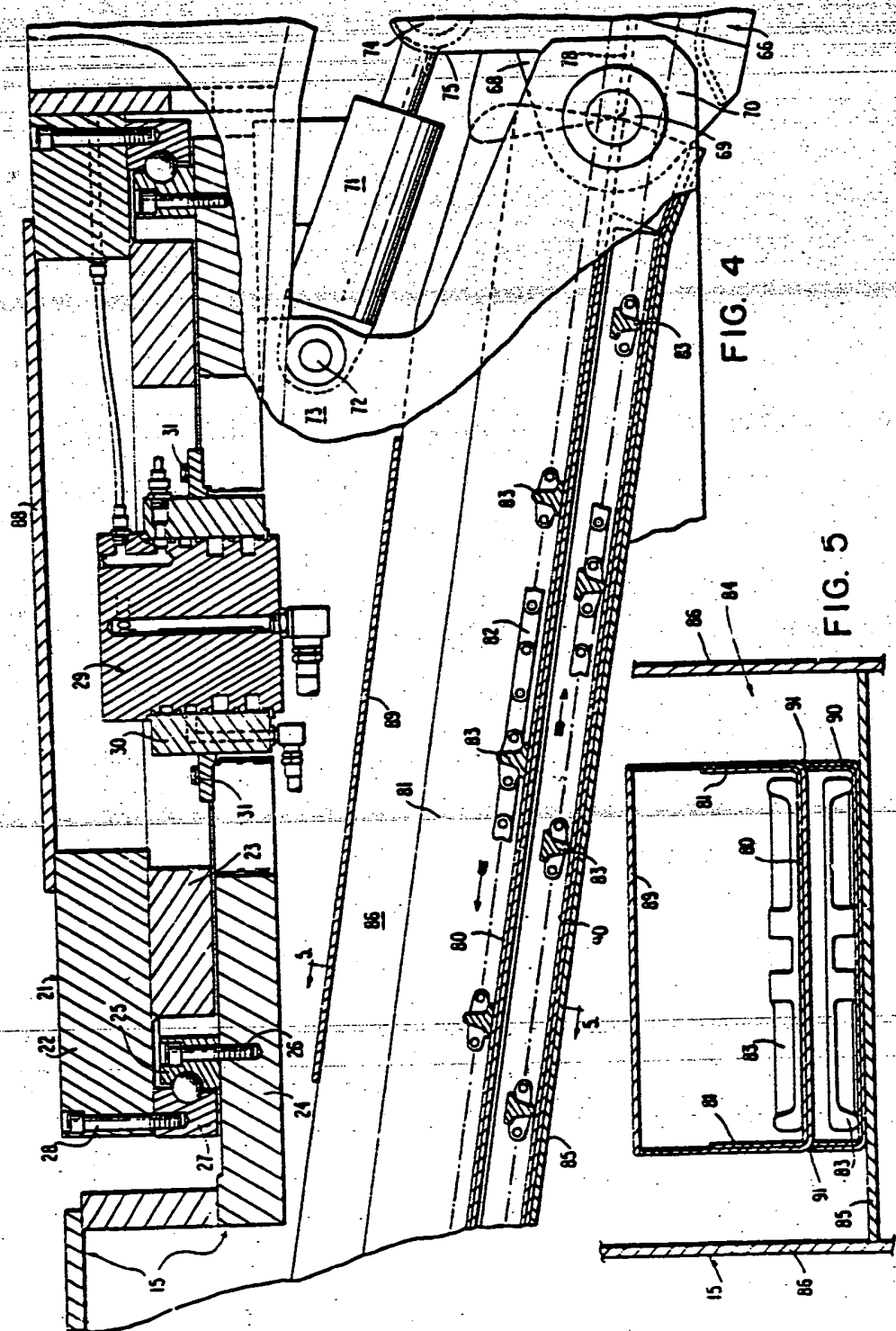
FIG. 2

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FIG. 3



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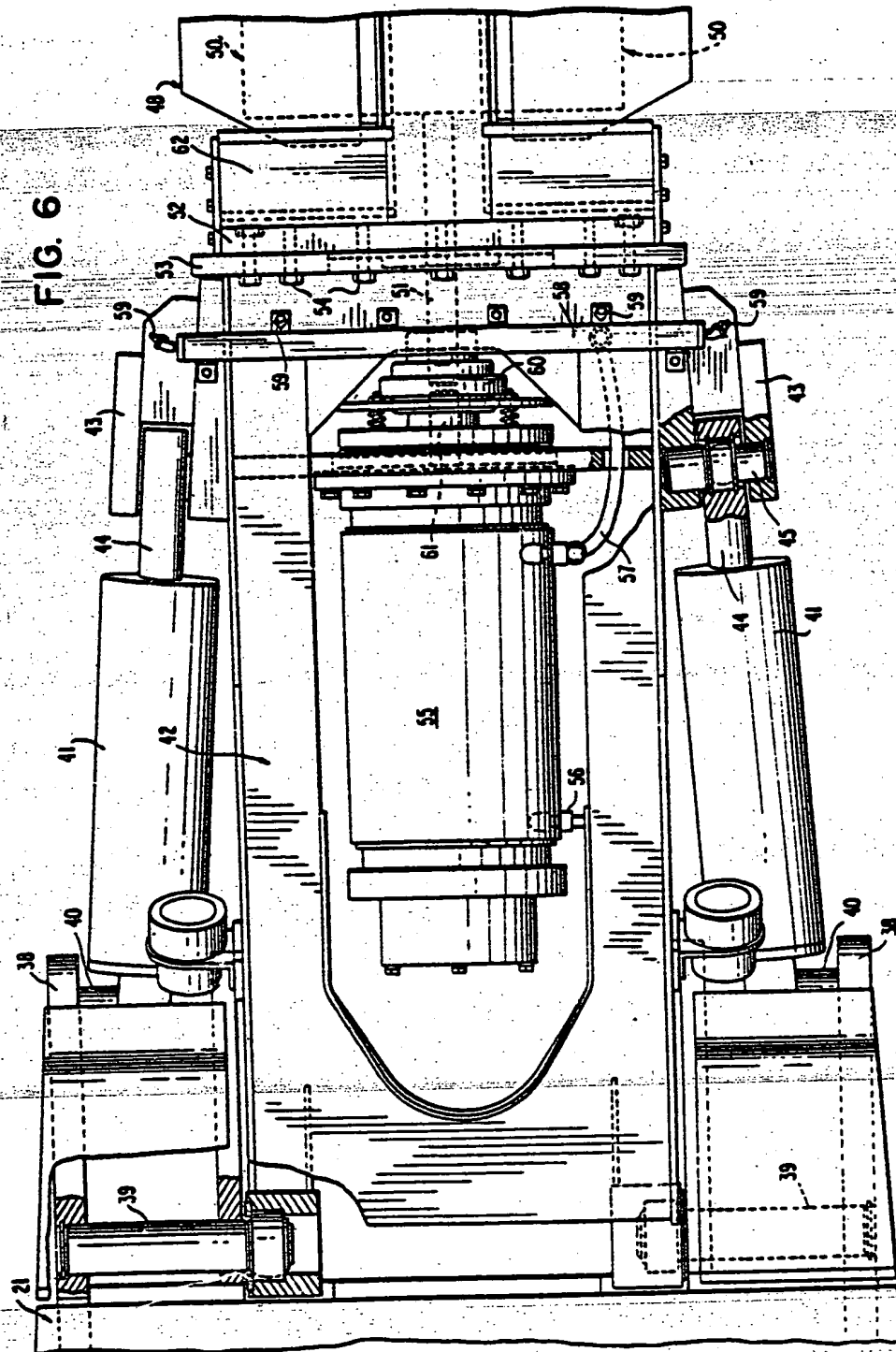


FIG. 6

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FIG. 10

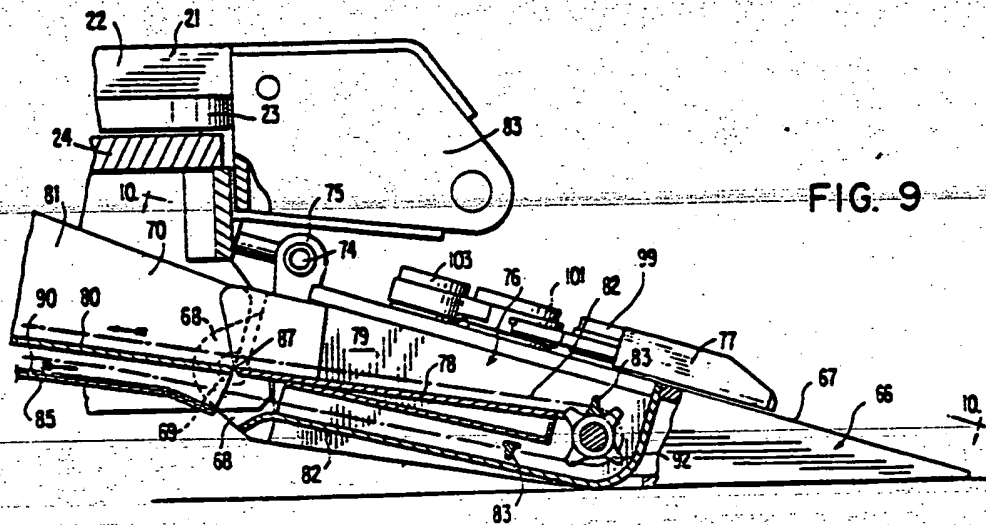
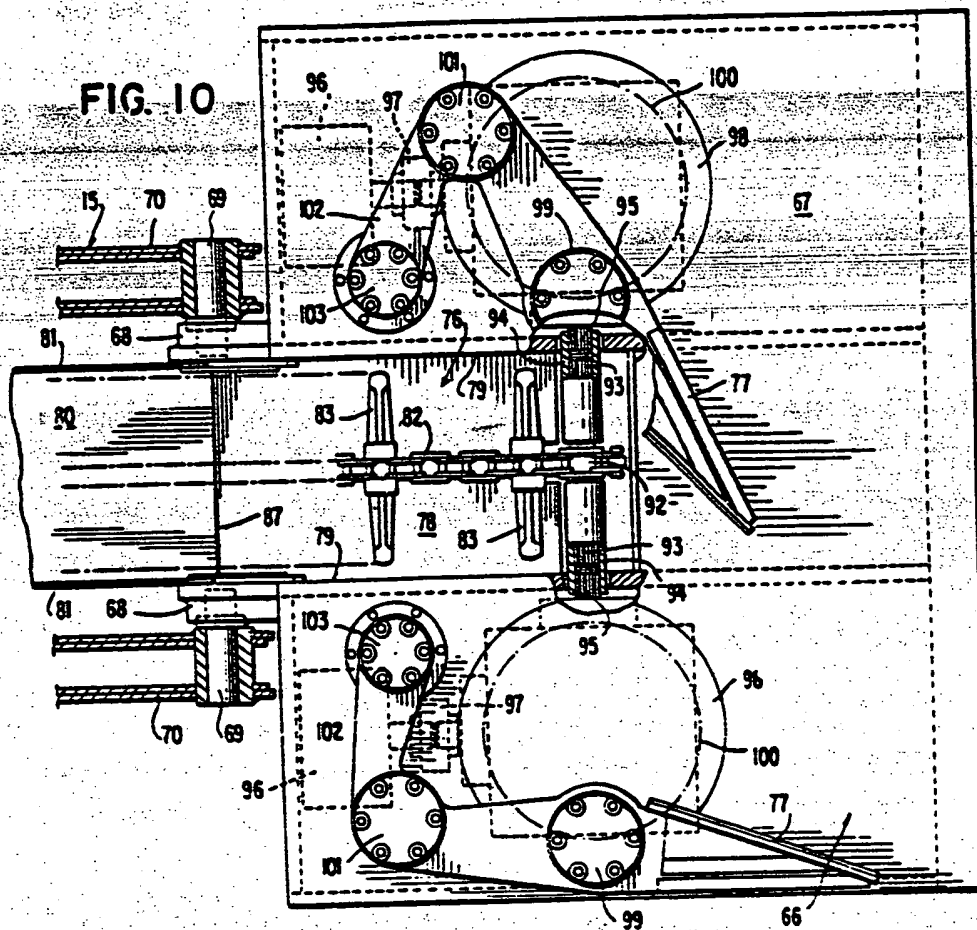


FIG. 9

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